

ARC-OVER

July, 2017 EDITION

Fire on the Hill

When the Detwiler fire began there was an ominous feeling that this would not be a small event... With the abundance of rain this last season, the continuous heat and since there was an abundance of dry grass and foliage to feed the fire, in no time at all the fire crossed hwy 49 and proceeded it's march up Mt. Bullion as depicted by this picture taken at the Mt. Bullion airport just before it's forced evacuation...



With the march up Mt. Bullion Air tankers began profusely painting the western slope to prevent the fire from crowning the peak with intense heat capable of burning everything in site... Fire crews were also dispatched to protect buildings which house emergency communications for Mariposa and Merced Counties... As a result a controlled burn for the most part was maintained as the fire crossed over the peak.

This is the resultant view of the mountain top as viewed looking north from the AirCall building, towards the W6BXN building in center of picture. Notice burned grass with tree foliage having minimal impact. You can see retardant on road and propane tank. They painted the area very well which helped control the heat....



W6BXN and W6HHD D-Star were the only Amateur systems still on the air from Little Bullion. On Big Bullion the W6PPM, 146.745 repeater in the State vault was still on the air... In addition KI6HUU, 442.675 in the old KUBB building also had emergency generator. These were the ONLY repeaters in the Mt. Bullion chain that remained on the air, definitely a prudent investment on the part of TARC... Apparently, some road work has been done on the access road and we're anxious to get in to take a closer look at things... We have a propane delivery scheduled for Monday, July 31st. At that time we can closer calculate the fuel burn rate for future extended outages. Having had maintenance performed just before the fire, we'll most likely check oil and give everything a once over and we'll be good to go for the next outage...

Fire on the Hill (continued)

This is not to say there was little that burned on the peak, quite the contrary. During the last big storm the wind decimated an old wooden trailer about 40' south of the AirCall building. It looked as if someone had tossed a hand grenade in the thing. Here is the before and after fire pictures.



In that this trailer burned within 40' of the AirCall building is further evidence of fire crew presence on the hill. Generators at AirCall and W6BXN both responded to the power outage. Unfortunately, the same cannot be said for the Sayer Building where the K6IXA remote & K6IXA-12 RMS Packet node is located. Here is a picture of that site.



After the big wind storm when numerous dead trees had been toppled, Fire Crews from CalFire had cleaned up area and piled brush out away from buildings... The removal of flammables from the immediate area of the buildings helped save them as well... Note the ash on left side of road to Sayer Building this was from the piles of brush and dead trees...

Power was turned off by PG&E to protect Fire Fighters. This Transformer pole burnt and fell across road.. Power was restored Sunday July 23rd around 11:00 am...



The Old Hunting Lodge did not survive quite as well...

Local guys during deer season, would convene, drink, play cards, go home and tell the wife about the big one that got away... The REAL loss was the wooden out-house next to the lodge... That thing saved my life on numerous occasions. All in all we survived very well. The generator installation might well be the best investment we ever made. Every time I heard the double beep on the hang time indicating the generator was running, it brought a smile to my face...

Editor K6IXA



AN/GRC-109 From Last months coverage of Chuck Mancebo, (W6GAM)... He virtually lived with his AN/GRC-109 in "Nam" and still has one today which he takes out for straight Key night. Here is an article taken from The Southern California Sentinel covering the AN/GRC-109:

AN/GRC-109

The First True Special Forces Radio



By Gene Williams A-233 Ban Don '66-'67;
MACV SOG FOB-2 '68

Browsing eBay I stumbled across this item:
a genuine AN/GRC-109. Time flashed
back to 1965 and I just had to acquire it:

Why? In July, 1965, the new Special Forces
Training Group commo class on Smoke

Bomb Hill convened including myself and subsequent legends like
Squirrel Sprouse and Snake Adams (both pictured below — author
not pictured; note Snake's healthy attitude — he was SF already).

We all were introduced to the AN/GRC-109 the next month. Here
was a true piece of Cold War fighting black iron ... sneaky, solid,
menacing-looking ... and heavy as a cannon ball. We carried it
and its hand-cranked generator the AN-58 into Piscah National
Forest for the December, 1965, final exercise. Lonny Holmes can
attest to the weight of that generator; he toted it in the snow and
ice for two weeks.



AN/GRC-109 radio, complete with instruction booklets.



July, 1965, SFTG commo class, Smoke Bomb Hill, Ft. Bragg: Snake Adams and company



AN/GRC-109 radio with generator



Sgt Terry Dahling in the 10th SFG. Note: Dahling was my predecessor as 1-0 of RT Delaware, FOB-2, Spring, 1968



SSG Homer Rice, USSF, Ban Houie Sai, Laos, 1962 setting up the 109

They were built for the Army from 1960 to 1964 but were the standard SF A-team radios from 1960 to the mid 1970's. These radios were underpowered, required send/receive in Morse code, and were technologically behind the times by 1966, but utterly indestructible.

The radio originated with the SSTR-1 OSS unit radios in WWII. In 1948 the CIA upgraded the SSTR-1, adopting a radio made by Admiral Corporation for use by guerrilla fighters and agents worldwide. It was called the RS-1. The RS-1 was used everywhere — Albania, Cuba, SE Asia, Tibet, China, Iran, Eastern Europe, Russia. It was versatile, modular, could be hidden even underwater, buried in the ground, air-dropped and was unbreakable. It could be used with any input voltage and load just about any antenna. And it had a "burst transmission" capability limiting time on air and helping negate enemy RDF. It was the Jeep of the radio world.

As the conflict in SE Asia began to accelerate in Vietnam and Laos in 1960-61, the 7th SFG's Operation White Star SF teams came under CIA opscom and used the RS-1. The Army soon realized it needed an equivalent radio and for once was struck with common sense — it simply adopted the CIA radio and re-labeled it the AN/GRC-109.

The radio consisted of three different units:

(1) R-1004 receiver (CIA designation RR-2): For the tech minded it receives AM and CW. It is single conversion, superheterodyne receiver that could be controlled by a crystal 455 khz higher than the receive frequency. It has 6 valves - RF pre-amplifier, local oscillator/mixer, 2xIF amplifiers, AF amplifier and a BFO. It has a manual RF gain and could be used with headphones or a speaker. It could receive AM/CW signals ranging from 3000 KHz to 24 Mhz over three bands — 3-6 Mhz; 6-12 Mhz and 12-14 Mhz.

(2) T-784 transmitter (CIA designation RT-3): This is a crystal controlled CW only transmitter which could be used via the built-in key or an external key. It could broadcast on freqs from 3000 Khz to 22 MHz in four bands. I had two valves: one for the crystal oscillator and one for the RF amplifier. Its power output was 12-15 watts (3-14 MHz) and 10-12W (15-22 MHz).

(3) Power Supply: There were three alternatives (a) PP-2684 Power Supply (CIA designation RP-1): The power supply was robust and could be switched to operate on every AC voltage in the world. AC input could range from 75 to 269 volts at anything from 40 to 400 Hertz. The supply line cord had wall unit adapters. It provided 6 volts AC for the transmitter and 1.3 volts DC for the receiver. It also could charge the battery. It could be powered by a gasoline generator or from the infamous hand-crank generator. (b) PP-2685 Power Supply: There was a second smaller power supply the size of the transmitter/receiver packages that was less capable. (c) AN-58 hand crank generator (CIA designation SSP-11): There were two models — AN-58 and the taller AN-43. No matter the model, you'd better put your most steroid-enhanced, anaerobic, muscle onto this.

Special Forces in Vietnam and Laos operated the AN/GRC-109 mostly from hand-made dipole antennas, or long wires cut to frequency and tossed up into trees, or coat hangers or barbed wire. And it would transmit around the world if you needed it to. Though there was a built in Morse code key on the set, few used it. Most of us scrounged, stole, bought a "leg key." The problem with operating in Pischah for that final exercise was the civilian ham radio operators. We were trying to communicate using 12 watts of power. The hams would hear the call sign, think it was some odd ham radio operator sending from the Solomon Islands or someplace and come bombing in on top of us with 10,000 watts of power. The "B-Team" often had to have three radio-men listen to the same transmission... then try to piece together the message. The B-team base camp for the Dec 1965 Pischah exercise is pictured to the bottom right; No AN/GRC/109's — which were in a separate tent; but there again is Squirrel Sprouse looking very 82nd Airborne:

In Vietnam at least by 1966 not a single A-Camp used the AN/GRC-109 for everyday transmissions. By that time SF had equipped its A-teams with civilian Ham Radio Single Sideband Collins KWM-2A transceivers and automatic keys (Bugs), great for bootlegging a Ham call sign, pretending to be "maritime mobile," and bombing back into the USA to have a Ham operator patch you into the phone system there. Also the A-team's CIDG companies were usually operating within 30 km of their base and could communicate via standard PRC-25's; MACVSOG teams by this time also used PRC-25's, relayed by comms sites in Laos or Cambodia (such as Leghorn) situated on vertiginous unassailable heights. Yet every A-camp still had the AN/GRC-109 sitting in the comms bunker as a backup. Just looking at that black iron resting solidly on the desk was comforting. It wouldn't break. It could be used as bullet-proof armor in a pinch. And it had an aura of, dare I say, romance with a pedigree connecting Special Forces troopers in Vietnam with the WWII OSS led guerrillas in



MSG Richard E. Pegham, 1964, Plei Mrong



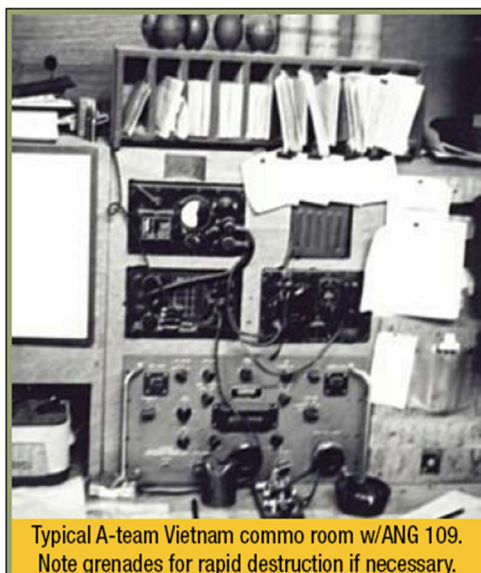
Squirrel Sprouse, B-Team, final SFTG training exercise, Fall-1965

France, Italy, the Philippines, Burma, Malaya and Vietnam itself.

Notice I have mentioned communication by Morse code several times. Special Forces in Vietnam were perhaps the last large units in the world, certainly in the US Army, to use Morse code for team-to-team communications. SF employed something else that was unusual too. The use of code required encrypting the messages. For this purpose,

SF throughout the country employed "one-time" pads, probably the most extensive use of this unbreakable encryption ever.

The "one-time" pads were produced in duplicate copies. Two teams needing to communicate each had one of the pad copies. Each sheet on the pad contained lines of randomly generated letters in groups of five. To encrypt, you wrote your message above the groups of letters, and then converted to



Typical A-team Vietnam commo room w/ANG 109. Note grenades for rapid destruction if necessary.



Typical "leg key" for sending Morse code while in field



Semi-automatic Morse code key, called a "bug," used by all teams in Vietnam for team-to-team communication



Gene in the field in Vietnam in 1967, setting up radio for communication to A-Team base.



Typical "one-time" pad with encryption matrix barely visible, extreme left. From <http://www.cryptomuseum.com/crypto/img/301277/005/full.jpg>



Author, Gene Williams, Left - Herat, Afghanistan, 2006, Right - Ban Don, S. Vietnam, 1966

a code letter by combining the random pad letter and the message letter, using a matrix. The receiving team reversed the process, and then both teams destroyed the "one-time" sheet. Most 05B4S' (Special Forces Commo MOS) in S.E. Asia during the war could encrypt and decrypt on the fly ... they had memorized the conversion matrix.

What finally happened to the An/GRC-109? In a way the radio marked the end of an era. It was designed for WWII behind-

the-lines conditions; for 1,000 mile cryptic communications from autonomous units operating on their own with minimal direction from the "center." That concept went away when you could call by voice to your commanders only 30 miles away. The need just disappeared, just as the authority for squad tactics controlled by a sergeant disappeared when a General could fly in and hover overhead in his helicopter. Still, the 109 was, and is, the acme of the genre.

Final word: I was posted to the Karachi Consulate in the mid-1970's. The Consulate had been built in 1952 and while helping clean out the attic which had stuff stored for 25 years, I discovered a pristine RS-1. It was fully operational with hand-crank generator and a complete set of crystals and no property records. I chucked it. Buying this set makes up for that stupidity. I may donate it to the Special Warfare Museum but only after I play with it for a while. ♦

Harvey House Special Events

Hi to All Amateur Radio Clubs in the Vicinity of Historic Harvey Houses.

Harvey Houses on the Air Special Event Stations will activate many of the 84 historic Harvey Houses each year on the second Saturday of September (in 2017, this is September 9). It would be appreciated if you would bring HHOTA to the attention of your members with the objective of getting a HHOTA Special Event Station operating at each of these Harvey Houses. Please mention HHOTA in your club newsletter and meetings.

You probably know Fred Harvey built and operated Harvey House Hotels and Restaurants (both commonly referred to as Harvey Houses) along western railroads. California apparently had twelve Harvey Houses: Bakersfield, Barstow, Hollywood, Laguna Beach, Los Angeles (2), Merced, Mojave, Needles, San Bernardino, San Diego and San Juan Capistrano. HHOTA information is at www.grz.net/vcara which includes links to more information about Harvey Houses and the famous Harvey Girls recruited as staff.

Thank you and 73,

Andrew Eldridge, AE5NM
HHOTA Coordinator

New Mexico's Valencia County Amateur Radio Association is sponsoring HHOTA.

Merced's Harvey House

The Harvey House, a lunch room which catered to travelers on Santa Fe railroad trains, was located at K Street and the Santa Fe right-of-way. It opened in 1897 and closed in 1921 when dining cars began to replace local restaurants.

Harvey headed a string of 47 diners and restaurants, 15 railroad hotels and 30 dining cars. To his Harvey Houses he added a new attraction — waitresses. His stipulation for hiring them was they be of good character, between ages of 18 to 30 years old, attractive and smart.

They were paid \$7.50 per month, plus board, room and tip. They lived in a dormitory on the upper floor of the restaurant which was furnished with a "courting parlor." They had a very stringent 10p.m. curfew.



A Broadway Musical "The Harvey Girls" was patterned after the waitresses. It has been estimated that 5,000 Harvey Girls met their future husbands while working in a Harvey House.

The Harvey House in Merced, of mission-style architecture, opened in 1897 and closed in 1921. In 1935 it housed the WPA (Works Projects Administration) until 1943. Then during World War II, the federal government's rationing board was headquartered there and after that it was used as a warehouse for C.E. Prince Furniture Store a local firm, until it burned in 1963.

Editor K6IXA

15 Spectacular tricks to teach your body

- 1.) If you've got an itch in your throat, scratch your ear. When the nerves in the ear get stimulated, they create a reflex in the throat that causes a muscle spasm, which cures the itch
- 2.) Having trouble hearing someone at a party or on the phone? Use your right ear it's better at picking up rapid speech. But, the left is better at picking up music tones
- 3.) If you need to relieve yourself BADLY, but you're not anywhere near a bathroom, fantasize about RELATIONS. That preoccupies your brain and distracts it.
- 4.) Next time the doctor's going to give you an injection, COUGH as the needle is going in. The cough raises the level of pressure in your spinal canal, which limits the pain sensation as it tries to travel to your brain
- 5.) Clear a stuffed nose or relieve sinus pressure by pushing your tongue against the roof of your mouth then pressing a finger between your eyebrows. Repeat that for 20 seconds it causes the vomer bone to rock, which loosens your congestion and clears you up.
- 6.) If you ate a big meal and you're feeling full as you go to sleep, lay on your left side. That'll keep you from suffering from acid reflux it keeps your stomach lower than your esophagus, which will help keep stomach acid from sliding up your throat
- 7.) You can stop a toothache by rubbing ice on the back of your hand, on the webbed area between your thumb and index finger. The nerve pathways there stimulate a part of the brain that blocks pain signals from your mouth.
- 8.) If you get all messed up on liquor, and the room starts spinning, put your hand on something stable. The reason: Alcohol dilutes the blood in the part of your ear called the cupula, which regulates balance. Putting your hand on something stable gives your brain another reference point, which will help make the world stop spinning
- 9.) Stop a nose bleed by putting some cotton on your upper gums right behind the small dent below your nose and press against it hard. Most of the bleeding comes from the cartilage wall that divides the nose, so pressing there helps get it to stop
- 10.) Nervous? Slow your heart rate down by blowing on your thumb. The vagus nerve controls your heart rate, and you can calm it down by breathing
- 11.) Need to breathe underwater for a while??? Instead of taking a huge breath, HYPERVENTILATE before you go under, by taking a bunch of short breaths. That'll trick your brain into thinking it has more oxygen, and buy you about 10 extra seconds
- 12.) You can prevent BRAIN FREEZE by pressing your tongue flat against the roof of your mouth, covering as much surface area as possible. Brain freeze happens because the nerves in the roof of your mouth get extremely cold, so your brain thinks your whole body is cold. It compensates by overheating which causes your head to hurt. By warming up the roof of your mouth, you'll chill your brain and feel better
- 13.) If your hand falls asleep, rock your head from side to side. That'll wake your hand or arm up in less than a minute. Your hand falls asleep because of the nerves in your neck compressing so loosening your neck is the cure. If your foot falls asleep, that's governed by nerves lower in the body, so you need to stand up and walk around
- 14.) Finally, this one's totally USELESS, but a nice trick. Have someone stick their arm out to the side, straight, palm down. Press down on his wrist with two fingers. He'll resist, and his arm will stay horizontal. Then, have him put his foot on a surface that's half an inch off the ground, like a stack of magazines, and do the trick again. Because his spine position is thrown off, his arm will fall right to his side, no matter how much he tries to resist
- 15.) Got the hiccups? Press thumb and second finger over your eyebrows until the hiccups are over - usually shortly.

Submitted by Robert (docbob) Baker, NL7UH

Hymn #365

A minister was completing a temperance sermon. With great emphasis he said, "If I had all the beer in the world, I'd take it and pour it into the river."

With even greater emphasis he said, "And if I had All the wine in the world, I'd take it and pour it into the river."

And then finally, shaking his fist in the air, he said, "And if I had all the whiskey in the world, I'd take it and pour it into the river."

Sermon complete, he sat down.

The song leader stood very cautiously and announced with a smile, nearly laughing, "For our closing song, let us sing Hymn #365, 'Shall We Gather at the River'."

See you at the river... Bring your own glass!

Submitted by
Marge Lowe, KB6DXM

4 Things you might not have known about your Cell Phone

For all the folks with cell phones. (This should be printed and kept in your car, purse, and wallet. Good information to have with you.)

There are a few things that can be done in times of grave emergencies. Your mobile phone can actually be a life saver or an emergency tool for survival. Check out the things that you can do with it:

FIRST (Emergency)

The Emergency Number worldwide for Mobile is 112. If you find yourself out of the coverage area of your mobile network and there is an Emergency, dial 112 and the mobile will search any existing network to establish the emergency number for you, and interestingly, this number 112 can be dialed even if the keypad is locked. Try it out.

SECOND (Hidden Battery Power)

Imagine your cell battery is very low. To activate, press the keys *3370#. Your cell phone will re-start with this reserve and the instrument will show a 50% increase in battery. This reserve will get charged when you charge your cell phone next time.

THIRD (How to disable a STOLEN mobile phone?)

To check your Mobile phone's serial number, key in the following Digits on your phone:

***#06#** .

A 15-digit code will appear on the screen This number is unique to your handset. Write it down and keep it somewhere safe.

If your phone is stolen, you can phone your service provider and give them this code. They will then be able to block your handset so even if the thief changes the SIM card, your phone will be totally useless. You probably won't get your phone back, but at least you know that whoever stole it can't use/sell it either. If everybody does this, there would be no point in people stealing mobile phones.

And Finally....

FOURTH (Free Directory Service for Cells)

Cell phone companies are charging us \$1.00 to \$1.75 or more for 411 information calls when they don't have to. Most of us do not carry a telephone directory in our vehicle, which makes this situation even more of a problem. When you need to use the 411 information option, simply dial:

(800) FREE411 or (800) 373-3411

without incurring any charge at all. Program this into your cell phone now.

Editorial Note: above reported but not confirmed by your editor...

Editor K6IXA